



The Science of Teaching Reading

Margie Gillis, Ed.D.

President, Literacy How, Inc.

Research Affiliate, Haskins Laboratories

Reading Forum

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NAEP Reading Score Gaps for Connecticut Grade 4 Student Groups

- In 2011, Black students had an average score that was 34 points lower than White students. This performance gap was not significantly different from that in 1992 (34 points).
- In 2011, Hispanic students had an average score that was 35 points lower than White students. This performance gap was not significantly different from that in 1992 (43 points).

NAEP Reading Score Gaps for Connecticut Grade 4 Student Groups

In 2011, students who were eligible for free/reduced-price school lunch, an indicator of low family income, had an average score that was 35 points lower than students who were not eligible for free/reduced-price school lunch. This performance gap was not significantly different from that in 1998 (35 points).

NAEP Reading Score Gaps for Connecticut Grade 8 Student Groups

- In 2011, Black students had an average score that was 28 points lower than White students. This performance gap was not significantly different from that in 1998 (32 points).
- In 2011, Hispanic students had an average score that was 29 points lower than White students. This performance gap was not significantly different from that in 1998 (30 points).

NAEP Reading Score Gaps for Connecticut Grade 8 Student Groups

In 2011, students who were eligible for free/reduced-price school lunch, an indicator of low family income, had an average score that was 27 points lower than students who were not eligible for free/reduced-price school lunch. This performance gap was not significantly different from that in 1998 (27 points).

Educational Malpractice

“The difference between what science has taught us about what works in reading instruction and what we actually do in teaching kids to learn to read”

Lyon (1998) Testimony before the U.S. House and Workforce Committee, Washington DC

The Science of the Reading Brain

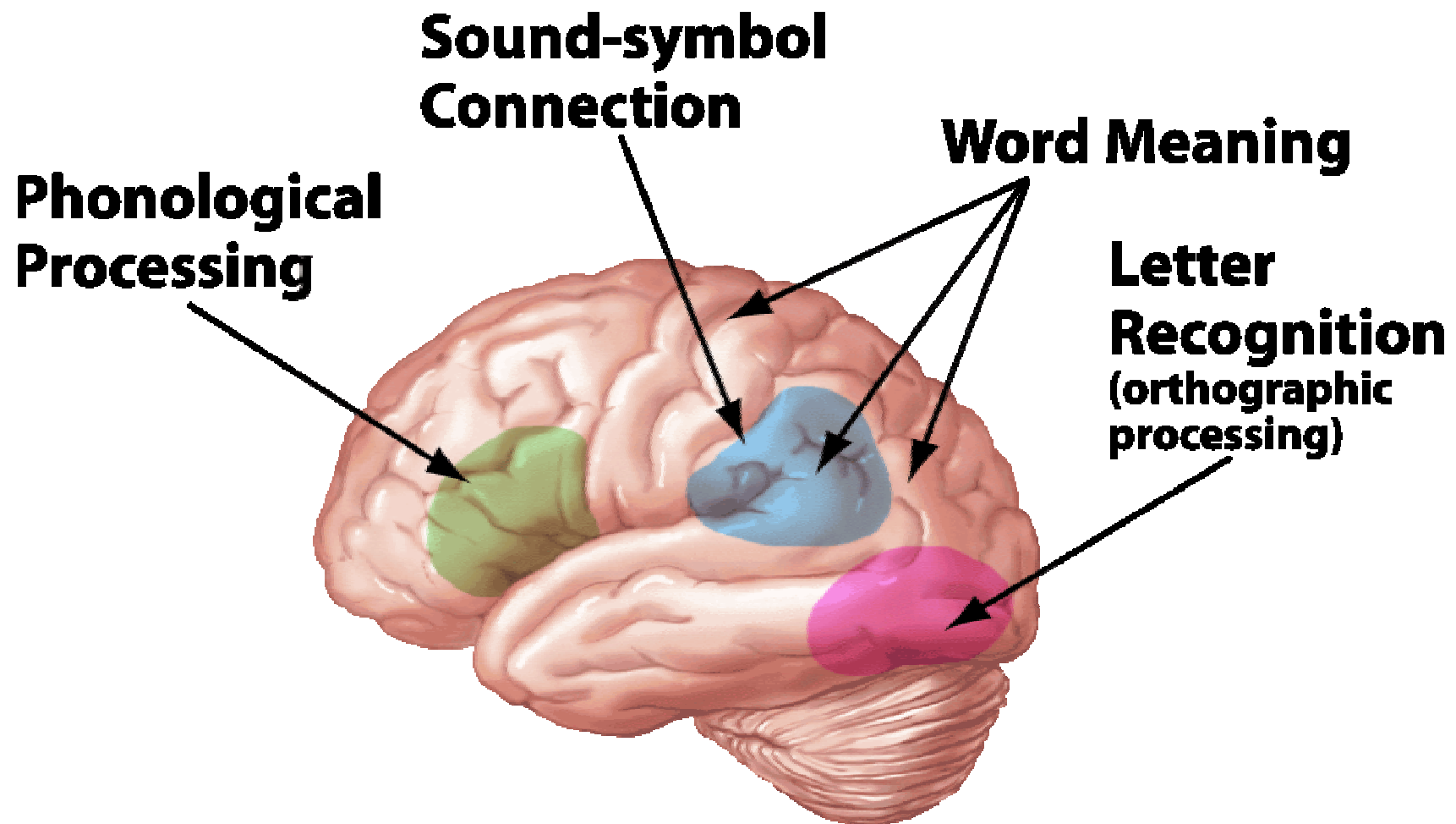
“Each new reader comes to reading with a ‘fresh’ brain -- one that is programmed to speak, see, and think, but not read. Reading requires the brain to rearrange its original parts to learn something new.”

Maryanne Wolf, 2009

Teaching reading *is* rocket science!

(Louisa Moats)

Areas of the Brain Used for Reading



Language, Reading, and Brain

The development of fluent reading skills is essential for success in the modern world. Large numbers of children in all countries fail to acquire adequate literacy skills. For some this is due largely to lack of good learning experience but for others, it can reflect difficulties that are brain-based (Reading Disability).

Myth: Learning to Read is Natural

“Reading print is as natural as reading faces. Learning to read should be as natural as any other comprehensible aspect of existence.” (*Frank Smith, 2003*)

Reality: Learning to read is **NOT** natural.

Our brains are wired for oral language. Therefore, children must be taught explicitly and systematically to apply the principles of language learning – specifically how spoken language is translated into written language.

“Literacy is a secondary system, dependent on language as the primary system so effective teachers know a good deal about language.” (Catherine Snow, 2006)

Research Has Confirmed...

- Multi-component approaches work best
- Component emphasis should vary according to student characteristics (Aaron & Joshi; Connors et al.)
- Content, instructional design, methodology, intensity of instruction all matter in outcomes.

Research Findings: The Many Strands of Reading Success

LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE

(fact, concepts, etc.)

VOCABULARY

(breadth, precision, links, etc.)

LANGUAGE STRUCTURES

(syntax, semantics, etc.)

VERBAL REASONING

(inference, metaphor, etc.)

LITERACY KNOWLEDGE

(print concepts, genres, etc.)

WORD RECOGNITION

PHONEME

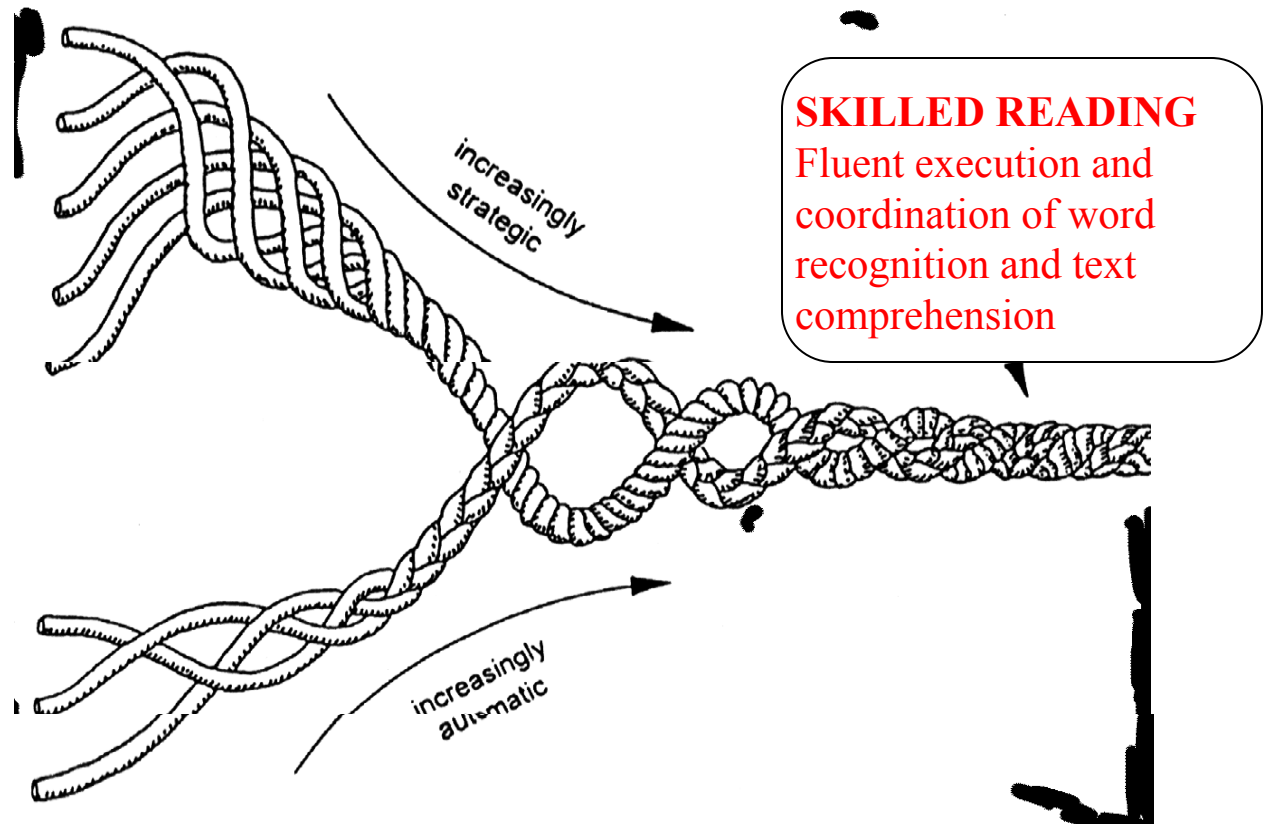
AWARENESS

(identification, blending, segmentation)

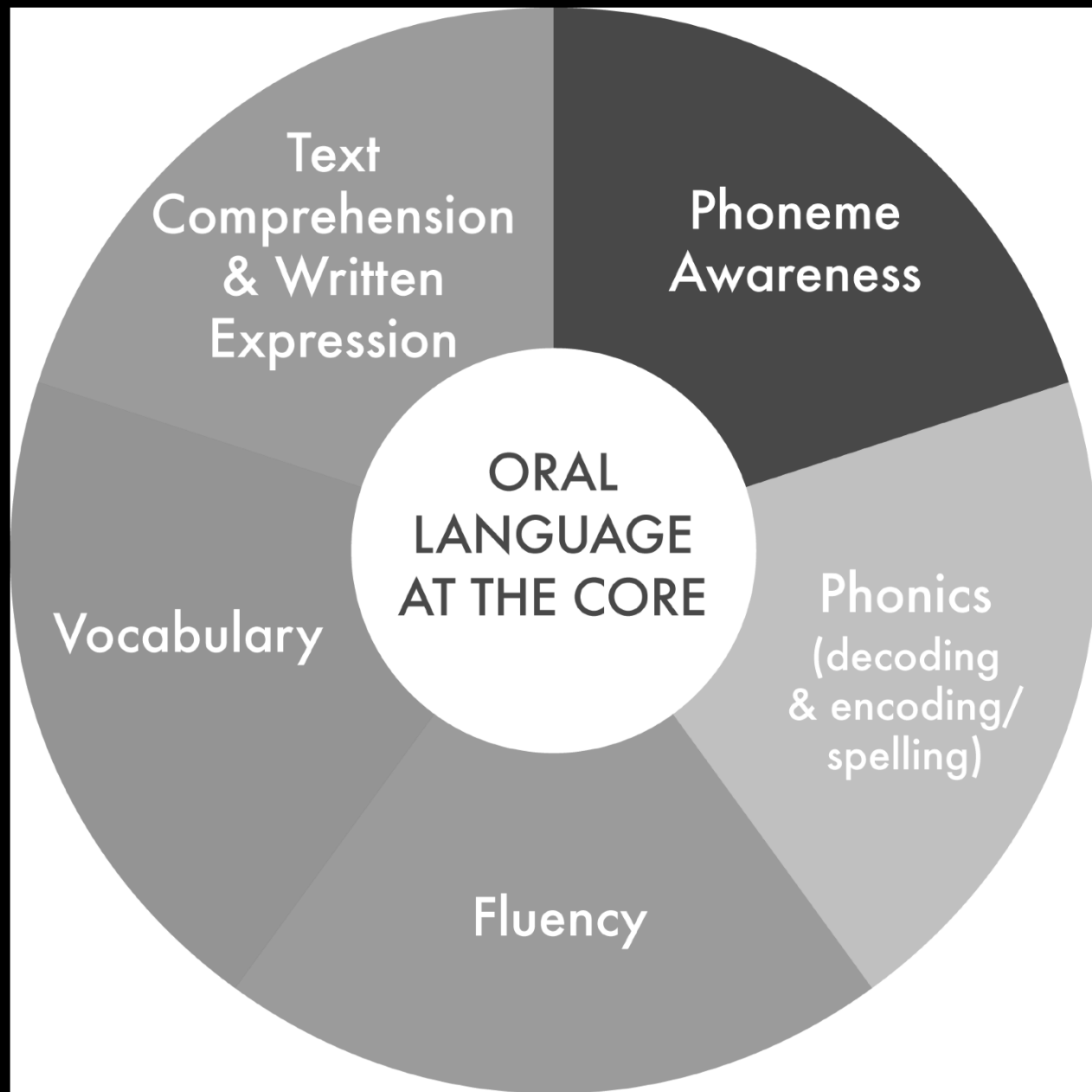
DECODING (alphabetic principle, spelling-sound correspondences, context patterns)

SIGHT RECOGNITION

(of familiar words)



Modified from
Scarborough, 2000





THE SCIENCE OF THE SPOKEN
AND WRITTEN WORD

- Private, non-profit research facility founded in 1935 for the purpose of scientific study of speech and language.
- Since 1965, Haskins Labs also has focused on reading research.
- Reading researchers have studied the development of literacy abilities, including discovery of phoneme awareness and its importance for learning to read. Brain research has informed us about the reading systems of the brain.
- Reading research includes comprehension and language acquisition and development.
- Haskins' researchers were instrumental in assembling a nationally-recognized panel of experts to create the Connecticut Blueprint for Reading Achievement.

Early Reading Success – 2000-2004

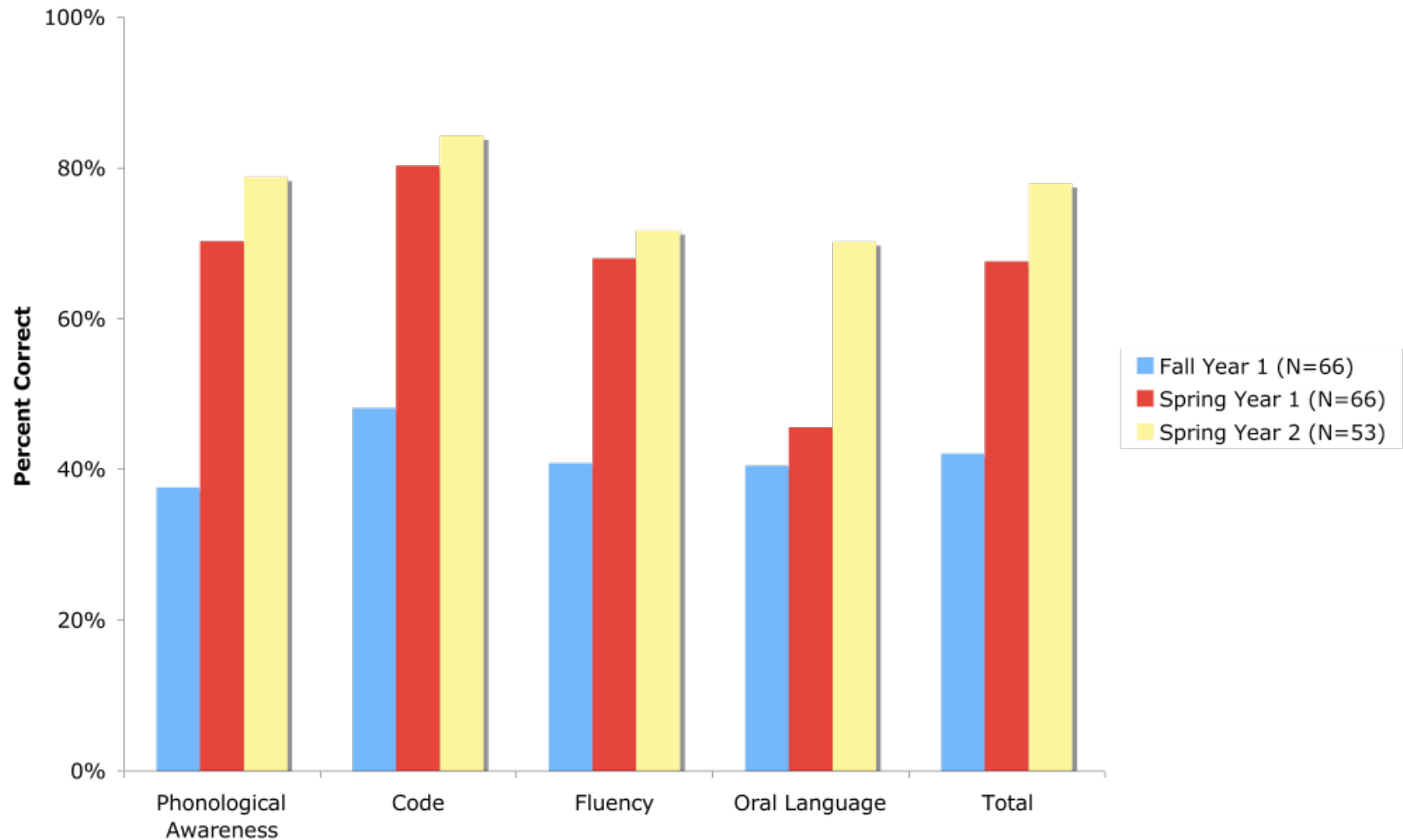
- A research-to-practice feasibility study, funded by the US and CT Departments of Education, and the University of RI, to apply reading research in Grade K-2 classrooms to improve reading instruction
- Based on their research-to-practice experiences in real classrooms, ERS leaders and mentors developed professional development models and tools for teacher training, and three CT model schools

Mastering Reading Instruction – 2003-2007

- *Teacher Quality grant funded by the* Institute of Education Sciences, a division of the US Dept of Education, to inform higher education and policy-makers about how to train teachers to more effectively teach reading.
- Focus on 1st grade reading instruction.
- Teacher professional development project in 37 schools over two years, including on-site coaching in mentor schools.
- Nine CT Districts (East Haven, Hamden, Hartford, Mansfield, New Britain, Norwalk, Norwich, Stamford, Waterbury)

Teacher Knowledge before and after one and two years of training - Mentor Group

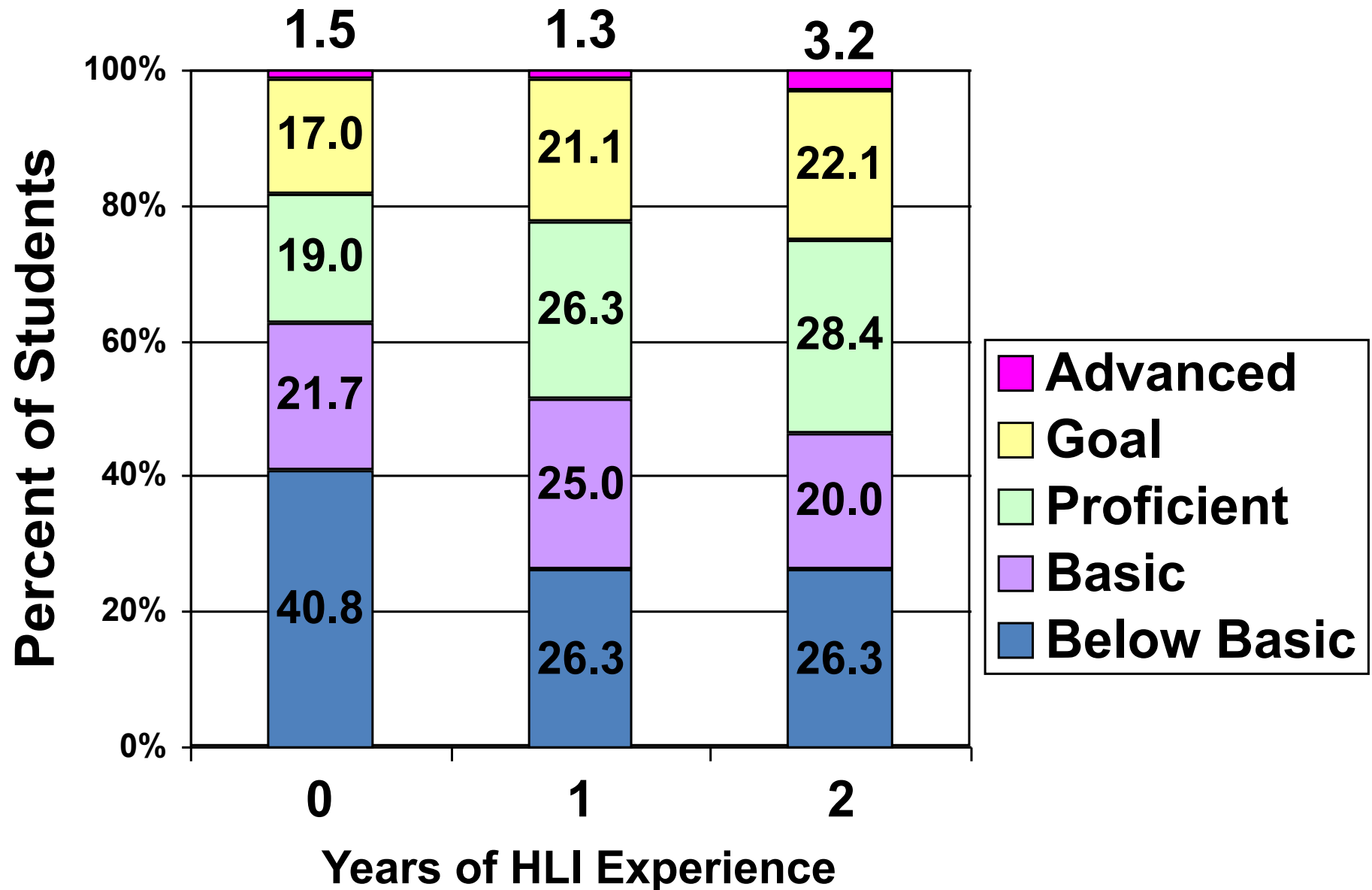
Teacher Knowledge Survey Scores



Hartford Public Schools: Hartford Foundation for Public Giving

- A three-year grant funded by HFPG with a goal of strengthening reading in the early grades.
- K-2 teachers in five schools received job-embedded PD from Haskins Literacy Specialists
- Students in all three grades made significant gains from fall to spring.
- K students whose teachers had the most support made the greatest gains and finished the year with the highest scores.

HLI Experience and 2009 Third Grade CMT Scores



Overall Findings

- PD programs were very successful at building teachers' knowledge, especially for the In-Class Mentor method.
- Significant correspondences were observed between teachers' knowledge and teachers' implementation of research-based methods of instruction.
- Yet, although teacher knowledge was significantly associated with student outcomes on some measures, this accounted for modest variance in student performance.
- **Teachers need *time to practice* the integration of all of the new information**

FIGURE 5.2
Training Components and Attainment of Outcomes in
Terms of Percent of Participants

	Outcomes		
Components	Knowledge thorough	Skill (strong)	Transfer (executive implementation)
Study of Theory	10	5	0
Demonstrations	30	20	0
Practice	60	60	5
Peer Coaching	95	95	95

Joyce and Showers

Studies of CT Teachers Demonstrate That:

- Many teachers lack research-based disciplinary knowledge about reading development, assessment, and language structure
- Teachers' preferred practices do not conform to current research and policy recommendations for teaching 1st graders.
- Teachers acquire this kind of knowledge when it is taught in preservice preparation or in-service PD
- Developing teacher knowledge has the potential to improve children's achievement – especially when this knowledge is combined with effective methods of instruction.
- "...it appears that a philosophical orientation towards literature-based instruction tends to be more exclusive of other instructional approaches."

It is NOT the teachers' fault!!

National Council on Teacher Quality (NCTQ) studies demonstrate that reading methods courses in teacher prep programs are not teaching the requisite evidence-based knowledge and skills for teachers to be successful in teaching children to read.

NCTQ is shining a light on the 1400 higher ed teacher prep programs in an effort to find the programs that are doing the best job and those that need to improve.

Research conducted in CT, showed that 78.5% of required reading course syllabi did not suggest testing or teaching an actual child in any component of reading (and 89.3% did not suggest supervised work with a child).

Haskins Literacy Initiative and now *Literacy How*

Translates the latest findings from Haskins Laboratories—and other reading researchers—into professional development and classroom practices to help teachers instruct reading more effectively.

Creates and delivers a sustainable model by continually monitoring, analyzing, and refining the content and conduct of professional development and embedded coaching, and by extensively training on-site Teacher Specialists to continue mentoring teachers.

Haskins Literacy Initiative and now *Literacy How*

Continues to design and conduct research to improve teacher knowledge and student achievement in reading.

Uses student data to drive and differentiate instruction with an eye to improving the efficacy of student assessment tools.

Creates “method-proof” teachers who can weigh the merits of the latest reading research, programs, and materials.

Haskins Literacy Initiative and now *Literacy How*

Tailors professional development to meet the needs of individual schools, teachers, and students, and advises about key materials needed to supplement existing school curricula.

Provides a realistic roadmap to higher student achievement through scope-and-sequences with clear curricular goals that guide seamless delivery of reading instruction across grade levels.

Common Core State Standards

The Common Core State Standards provide a consistent, clear understanding of what students need to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers.

...“these standards do not dictate how teachers should teach. Schools and teachers will decide how best to help students reach the standards.”

<http://www.corestandards.org/>

Professional Knowledge and Practice Standards

- ...to guide the preparation, certification, and professional development of those who teach reading and related literacy skills in classroom, remedial, and clinical settings;
- ...to specify what **any individual responsible for teaching reading** should know and be able to do, so that reading difficulties, including dyslexia, may be prevented, alleviated, or remediated.
- **Establishes a common core of professional knowledge and skill that can be taught to teachers**

<http://www.interdys.org/ewebeditpro5/upload/KPS3-1-12.pdf>

Why teachers' (and administrators') knowledge about reading development is important:

To administer and interpret diagnostic and progress monitoring assessments

To identify at-risk youngsters early

To provide appropriate intervention

To be informed consumers of reading programs and materials

“..a key element of teacher quality is the specialized knowledge teachers utilize when teaching.” (Piasta et.al., 2009)

Why Must We Focus on Prevention & Early Identification of Reading Difficulties?

88% Of Students Reading Poorly at the End of First Grade Will Read Poorly At the End of The Fourth Grade.

Unless Effective Reading Instruction Is Provided, Students Reading Poorly at the End of the Fourth Grade Will Have Reading Difficulties For the Rest of Their Lives!

Effective Prevention Programs Demand Shared Responsibility and a Common Language.

Teachers Need to Learn the Science of Teaching Reading to Ensure that ***All*** Children Learn to Read to Succeed in School and in Life!

Thank You

If you have questions, please contact:

margiegillis@literacyhow.com

203-239-READ (7323)